

1/2" (12.7 mm) Ten Turn Wirewound Bushing Mount Precision Potentiometer


FEATURES

- Large range of ohmic values: 100 Ω to 100 k Ω
- Smallest size available on the market
- Very easy and accurate adjustment
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


**RoHS
COMPLIANT**

| QUICK REFERENCE DATA | |
|----------------------|----------------------------------|
| Sensor type | ROTATIONAL, multi turn wirewound |
| Output type | Output by turrets |
| Market appliance | Professional |
| Dimensions | 1/2" (12.7 mm) |

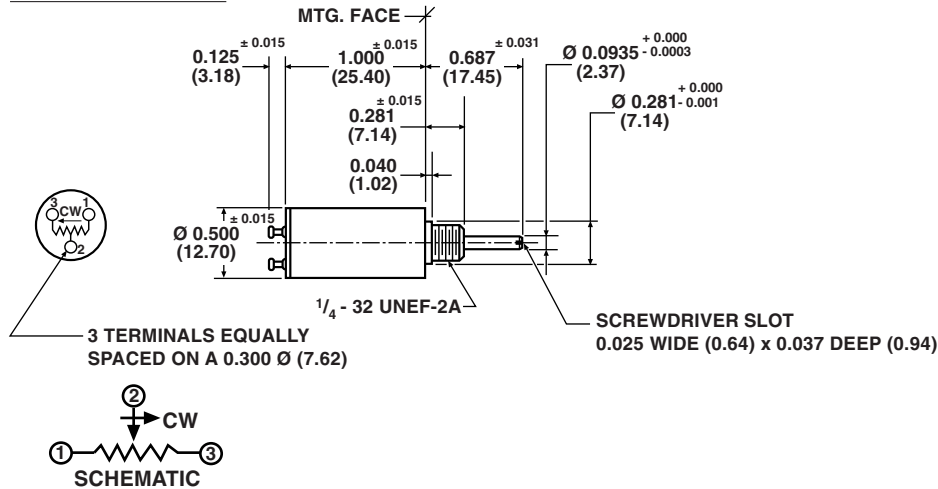
| ELECTRICAL SPECIFICATIONS | | |
|---|---|---|
| PARAMETER | | |
| Total Resistance Standard Range Tolerance | STANDARD 100 Ω to 100 k Ω $\pm 5\%$ | SPECIAL 115 k Ω $\pm 1\%$ |
| Linearity (independent) | STANDARD $\pm 0.30\%$ | BEST PRACTICAL $\pm 0.15\%$ |
| Noise | 100 Ω ENR | |
| Electrical Angle | 3600° +15° -0° | |
| Power Rating | 2.0 W at 40 °C ambient, derated to zero at 125 °C | |
| Insulation Resistance | 100 M Ω minimum, 500 V _{DC} | |
| Dielectric Strength | 500 V _{RMS} , 60 Hz | |
| Absolute Minimum Resistance | Linearity x total resistance or 0.5 Ω , whichever is greater | |
| End Voltage | Linearity x total applied voltage for total resistance above 20 Ω , 2.0 % of total applied voltage for 20 Ω and below | |

| ORDERING INFORMATION | | | | | | | | | | | | | | |
|----------------------|---|------------------------------|---|-------|---|---|--|---|--|---|-----------------|---|---|---|
| 1 | 6 | 2 | B | 1 | 2 | 0 | 3 | 2 | 0 | 3 | X | X | X | X |
| MODEL | | STYLE | | GANGS | | | OHMIC VALUE GANGS N° 1 | | OHMIC VALUE GANGS N° 2 | | SPECIAL REQUEST | | | |
| 162 | | B: bushing S: servo | | 1 | | | 470 = 47 Ω 222 = 2.200 Ω 103 = 10 k Ω For ohmic value range see electrical specification | | 470 = 47 Ω 222 = 2.200 Ω 103 = 10 k Ω For ohmic value range see electrical specification | | xxxx | | | |

| PART NUMBER DESCRIPTION (for information only) | | | | | |
|--|--------------|-------|---------------------------|---------------------------|---------|
| 162- | 1 | 1 | 103 | 203 | xxxx |
| MODEL | STYLE | GANGS | OHMIC VALUE GANGS N° 1 | OHMIC VALUE GANGS N° 2 | SPECIAL |
| | B: 1 S: 2 | | | | |

DIMENSIONS in inches (millimeters)

MODEL 162B/162-1...



TOLERANCES: UNLESS OTHERWISE NOTED.
DECIMALS ± 0.005 ANGLES $\pm 2^\circ$

| MECHANICAL SPECIFICATIONS | |
|--------------------------------|---|
| PARAMETER | |
| Mechanical Rotation | 3600°, +15° -0° |
| Bearing Type: | Sleeve |
| Torque (Maximum) | STARTING 0.8 oz. - in (57.60 g - cm) RUNNING 0.6 oz. - in (43.20 g - cm) |
| Mechanical Runouts (maximums): | |
| Shaft (TIR) | 0.003" (0.08 cm) |
| Pilot Dia. (TIR) | 0.003" (0.08 cm) |
| Lateral (TIR) | 0.005" (0.13 cm) |
| Shaft End Play | 0.010" (0.25 cm) |
| Shaft Radial Play | 0.003" (0.08 cm) |
| Weight | 0.3 oz. (8.50 g) maximum |
| Stop Strength | 20 oz. - in (static) (1.44 kg - cm) |

| MATERIAL SPECIFICATIONS | |
|----------------------------|---|
| Housing and Lids | Molded, glass filled, thermoset plastic |
| Bushing | Brass, nickel plated |
| Shaft | Stainless steel, non-passivated |
| Terminals | Brass, plated for solderability |
| Bushing Mount Hardware | |
| Lockwasher Internal Tooth: | Steel, nickel plated |
| Panel Nut: | Brass, nickel plated |

| MARKING | |
|---------------------|---|
| Unit Identification | Units shall be marked with Vishay Spectrol name and model no, resistance and resistance tolerance, linearity, terminal identification and date code |

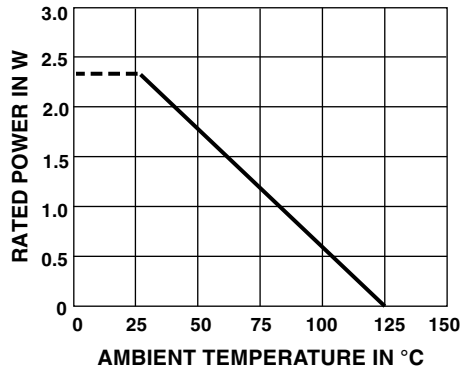
| ENVIRONMENTAL SPECIFICATIONS | |
|------------------------------|---------------------------|
| Vibration | 15 g thru 2000 Hz |
| Shock | 50 g |
| Salt Spray | 48 h |
| Rotational Life | 500 000 shaft revolutions |
| Temperature Range | -55 °C to +125 °C |

Note

- Nothing stated herein shall be construed as a guarantee of quality or durability.



POWER RATING CHART



| MARKING |
|---|
| Example of a marking for a standard part: 162-11103 |

| RESISTANCE ELEMENT DATA | | | | | |
|--------------------------------|----------------|---------------|---------------------------------------|---------------------------------|---------------------------|
| STANDARD RESISTANCE VALUES (Ω) | RESOLUTION (%) | OHMS PER TURN | MAXIMUM CURRENT AT 40 °C AMBIENT (mA) | MAXIMUM VOLTAGE ACROSS COIL (V) | WIRE TEMP. COEF. (ppm/°C) |
| 100 | 0.092 | 0.092 | 141 | 14 | 20 |
| 200 | 0.069 | 0.138 | 100 | 20 | 20 |
| 500 | 0.049 | 0.245 | 63 | 32 | 20 |
| 1K | 0.047 | 0.470 | 45 | 45 | 20 |
| 2K | 0.038 | 0.763 | 32 | 64 | 20 |
| 5K | 0.031 | 1.56 | 20 | 100 | 20 |
| 10K | 0.025 | 2.55 | 14 | 140 | 20 |
| 20K | 0.020 | 3.94 | 10 | 200 | 20 |
| 30K | 0.018 | 5.34 | 8.2 | 246 | 20 |
| 50K | 0.015 | 7.64 | 6.3 | 315 | 20 |
| 100K | 0.013 | 13.2 | 4.5 | 450 | 20 |



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